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REVISED CATALOG OF LUNAR CRATERS II . Research Report No. 11

by

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Boston U., Mass.

1315001

### Introduction

## UNPUBLISHED PRELIMINARY DATA

This catalog gives the selenographic coordinates of all craters observable on a selected portion of the moon's surface. The diameter of the crater together with comments on shape are also given. Approximately 15 per cent of the craters have been measured previously by other observers. The catalog gives the position found in the present series of measurements and the name adopted by the International Astronomical Union.

### Boundaries of Section

The section studied here was a strip on sheet C 6-b of the 'Photographic Lunar Atlas', (Kuiper, 1960). The east and west borders of the area followed the lines defined by the equations:

$$\eta = -7.57 \xi + 0.05 \quad (1)$$

$$\eta = -7.57 \xi + 1.45 \quad (2)$$

The north and south boundaries were taken as the edges of the photograph.

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XEROX

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2.60 ph

MICROFILM

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0.95 mf.

Selection criteria

(1.) A crater must have at least half of its wall clearly visible.

(2.) When foreshortening has been allowed for, a crater must be approximately circular. If elliptical, its eccentricity must not be greater than 0.75, i.e. the ratio of major to minor axes must not exceed 1.5. A crater may be polygonal, but its longest diameter must not exceed 1.5 times its shortest diameter.

(3.) A distinct shadow must be visible on some photograph of the crater, and the shadow must be properly oriented with respect to the sun.

The only types of craters which are likely to be missing in significant numbers are (a) those which are very small (less than 3 km in diameter) and (b) those which are very shallow and far from the terminator.

The photograph of the area to be surveyed was oriented with south at the top. For convenience, an x and y axes were chosen parallel to the edges of the photograph, the origin was set at the lower left corner, and the x-y coordinate grid established in inches. The method used to calculate the plate constants is that described by Belsky (1962). Crater coordinates were used as inputs to the Belsky program, with values of  $\xi$ ,  $\eta$  obtained from D. W. G. Arthur (1962.) This procedure avoids the errors contained in the coordinate grid of the Arthur and Whitaker (1960) atlas. (See Friesen

(1963) ).

In the catalog the first two lines (01, 02) on the first page, under "Calculation of Plate Constants", give the constants  $A_1$  to  $F_1$  in the equation

$$\xi = A_1 x^2 + B_1 xy + C_1 y^2 + D_1 x + E_1 y + F_1 \quad (3)$$

The second two lines (03, 04) give the constants in the equation

$$\eta = A_2 x^2 + B_2 xy + C_2 y^2 + D_2 x + E_2 y + F_2 \quad (4)$$

The constants are given in Fortran floating point format. For example,  $A = -.11039169E - 04$  should be interpreted as  $A = -0.11039169 \times 10^{-4}$ .

Line 05 on the first page gives the scale factor  $F$ , which was calculated in the following manner. Several pairs of craters, whose coordinates  $(\xi, \eta, x, y)$  are known, were chosen such that for each pair the line joining the craters is very nearly parallel to the limb of the moon. The distance between the craters on the photograph, in inches, was measured either directly or by using the equation:

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} \quad (5)$$

The same distance was measured in units of the Moon's

radius as follows:

$$D = \sqrt{(\xi_1 - \xi_2)^2 + (\eta_1 - \eta_2)^2 + (\zeta_1 - \zeta_2)^2} \quad (6)$$

where  $\zeta = \sqrt{1 - \xi^2 - \eta^2}$ . For two craters on a line nearly parallel to the limb  $(\zeta_1 - \zeta_2)^2$  is negligible. Then the scale factor  $F$  is given, in kilometers per inch on the photograph, by:

$$F = \frac{R D}{d} \quad (7)$$

where  $R$  is the lunar radius in km. Values for  $F$  are computed for as many pairs of craters as can conveniently be chosen; the average value thus obtained, with its estimated error, is quoted in line 05.

#### Residuals and errors

The residuals from the determination of plate constants gave an rms. value less than  $\pm 0.0003$  for  $\xi$  and  $\eta$ , corresponding to an uncertainty in position on the surface of  $\pm 0.5$  km. Although undetected systematic errors almost certainly exist, the positions given are probably reliable to  $\pm 1.0$  km. The error in determining the diameter of the craters depends to a great extent on the individual crater. The error is estimated as  $\pm 30$  per cent for small craters, decreasing to  $\pm 10$  per cent for the largest crater.

The catalog gives the position of the geometrical center of the rim. If the rim is raised above the mean level of the moon then the measured center is displaced towards the limb of the moon. This displacement is in general less than 1 km and is negligible compared to the uncertainty of defining the rim for a large crater.

The remainder of the pages under the heading "Calculation of Plate Constants" give the coordinates of the craters used for the calculation (Belsky 1962).

#### Explanation of Columns in the Catalog

The first column (CRATER) gives the designation of craters. Named craters follow the IAU system (Blagg and Müller 1932).

Columns 2 and 3 (XSI and ETA) give the computed orthographic coordinates of each crater. These values are reliable to three places of decimal.

Columns 4 and 5 (X and Y) give the coordinates of each crater, in inches, as measured on the photograph.

Column 6 (DIAM) gives the diameter of each crater in kilometers. The diameter of each crater was measured in inches on the photograph, and the scale factor described above was used to convert to kilometers. Diameters are peak-to-peak and parallel to the limb, except for elliptical craters for which the foreshortening was removed and the longest diameter taken. The smallest craters included in the

catalog are approximately one kilometer in diameter, corresponding to 0.03 inches on the photographs.

Column 7 (Q) provides an index to how well each crater fulfills our criteria for crater selection. A crater of quality "C" barely meets the minimum requirements for inclusion in the catalog. It may have just half of its wall visible, or be very elliptical, or show a shadow on only one photograph, or be so small as to be barely visible. Craters of quality "B" may have a small part of the wall missing or be somewhat elliptical or polygonal. Craters of quality "A" show distinct, properly oriented shadows on at least two photographs taken under opposing illuminations, have complete or nearly complete walls, and are not strongly elliptical or polygonal.

Column 8 (P) denotes how perfect a polygon each crater is. Craters for which there is no entry in this column are circular or nearly so. "A" craters are well-defined, quite regular, complete polygons. A "B" crater is less regular and the "A" polygons, may have sides of drastically unequal length, or may have one or more sides missing. A "C" crater is not a well-defined polygon; it may be a circular crater with irregular walls, or if it is a true polygon the number of its sides cannot be ascertained. In this column, the letter (A, B, or C) is followed by a digit giving the number of sides in the polygon. For example, "A6" denotes a well-defined, hexagonal crater. A "B4" crater may be a square

with one side missing, or a trapezoidal formation, etc.

Column 9 (RMKS) contains a series of numbered asterisks referring the reader to additional remarks or information given on a separate page at the end of the catalog.

Column 10 (REG) gives the number of the photograph on which each crater was measured.

### Notice of Revision

This catalog replaces Catalog II (Report No. 5). The change is occasioned by a correction in plate constants made necessary by errors in the Arthur and Whittaker (1960) atlas. The nature of the errors is discussed by Friesen (1963).

### References

- Belsky, L., 1962. The Transformation between Cartesian and Conic Coordinates. Lunar Project, Report 1, August 1962, Boston University, NASA G246-62.
- Blagg, Mary A., and Müller, K., 1932. Named Lunar Craters, Commission 17, International Astronomical Union, Percy Lund and Humphries, London.
- Kuiper, G. P., 1960. Photographic Lunar Atlas, Univ. Chicago Press.
- Arthur, D. W. G., and E. A. Whitaker, 1960, Orthographic Atlas of the Moon (ed. by G. P. Kuiper), University of Arizona Press.
- Friesen, D. D., 1963. The Choice of Fiducial Points in Determining Plate Constants for Lunar Photographs. Lunar Project, Report 9, November 1963, Boston University, NASA G246-62.
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BOSTON UNIVERSITY CATALOG OF LUNAR CRATERS

AREA C6

CALCULATION OF PLATE CONSTANTS -

A=-.91633617E-05	B= .55938339E-05	C=-.91992549E-05	01
D=-.18914366E-01	E=-.12717741E-02	F= .36545276E 00	02
A=-.16388653E-05	B= .64253210E-05	C=-.56523562E-05	03
D= .11025965E-02	E=-.19766409E-01	F=-.24701565E 00	04
F = 33.59 +- .40 KM/IN			05

X	Y	XSI	XSI(C)	DELTA	ETA	ETA(C)	DELTA
09.7200	00.3500	00.1804	00.1803	00.0000	-00.2431	-00.2433	00.0002
12.9000	01.1000	00.1190	00.1186	00.0003	-00.2549	-00.2547	-00.0001
09.7600	01.0600	00.1784	00.1786	-00.0002	-00.2571	-00.2573	00.0002
14.5200	01.8700	00.0863	00.0866	-00.0003	-00.2683	-00.2681	-00.0001
12.7000	01.5900	00.1216	00.1218	-00.0002	-00.2642	-00.2645	00.0003
10.2600	01.5500	00.1685	00.1685	-00.0000	-00.2666	-00.2664	-00.0001
09.2900	01.4800	00.1873	00.1871	00.0001	-00.2662	-00.2660	-00.0001
08.9200	01.5000	00.1938	00.1941	-00.0003	-00.2670	-00.2668	-00.0001
15.3800	02.2000	00.0697	00.0697	-00.0000	-00.2739	-00.2737	-00.0001
13.9900	02.4100	00.0961	00.0961	-00.0000	-00.2798	-00.2793	-00.0004
11.7100	01.9800	00.1403	00.1402	00.0000	-00.2736	-00.2733	-00.0002
11.7000	02.7200	00.1397	00.1395	00.0001	-00.2879	-00.2879	00.0000
08.4800	02.1000	00.2016	00.2017	-00.0001	-00.2794	-00.2792	-00.0001
13.0900	02.6000	00.1132	00.1131	00.0000	-00.2842	-00.2840	-00.0001
12.2800	03.0000	00.1279	00.1281	-00.0002	-00.2927	-00.2928	00.0001
15.0500	03.6500	00.0745	00.0742	00.0002	-00.3028	-00.3026	-00.0001
11.8300	03.6600	00.1360	00.1358	00.0001	-00.3062	-00.3063	00.0001
07.2000	03.4300	00.2247	00.2244	00.0002	-00.3070	-00.3068	-00.0001
13.6000	04.7700	00.1008	00.1006	00.0001	-00.3260	-00.3263	00.0003
08.6900	04.6800	00.1944	00.1944	-00.0000	-00.3297	-00.3299	00.0002
14.9400	05.3800	00.0743	00.0741	00.0001	-00.3367	-00.3368	00.0001
11.3000	05.0900	00.1444	00.1441	00.0002	-00.3352	-00.3351	-00.0000
15.8400	05.6600	00.0565	00.0565	-00.0000	-00.3409	-00.3414	00.0005
13.9300	05.9300	00.0930	00.0927	00.0002	-00.3489	-00.3488	-00.0000
12.3300	05.8700	00.1235	00.1234	00.0000	-00.3493	-00.3494	00.0001
07.6200	05.1900	00.2145	00.2141	00.0003	-00.3411	-00.3411	00.0000
09.4100	05.7600	00.1793	00.1793	-00.0000	-00.3503	-00.3504	00.0001
10.1900	06.0500	00.1638	00.1640	-00.0002	-00.3552	-00.3553	00.0001
09.9700	06.6600	00.1677	00.1674	00.0002	-00.3675	-00.3676	00.0001
11.8400	07.0100	00.1310	00.1313	-00.0003	-00.3727	-00.3724	-00.0002
11.1800	06.8900	00.1440	00.1440	-00.0000	-00.3708	-00.3708	00.0000
10.5300	06.8300	00.1562	00.1565	-00.0003	-00.3704	-00.3703	-00.0000
07.7300	06.7100	00.2101	00.2100	00.0000	-00.3710	-00.3711	00.0001
07.0800	07.0900	00.2220	00.2218	00.0001	-00.3792	-00.3793	00.0001
14.8300	07.8000	00.0730	00.0731	-00.0001	-00.3848	-00.3848	00.0000
06.4000	07.5500	00.2344	00.2341	00.0002	-00.3891	-00.3892	00.0001
12.2600	08.1100	00.1219	00.1218	00.0000	-00.3940	-00.3937	-00.0002

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X	Y	XSI	XSI(C)	DELTA	ETA	ETA(C)	DELTA
07.1600	08.0500	00.2192	00.2190	00.0001	-00.3981	-00.3983	00.0002
06.5500	08.1100	00.2306	00.2305	00.0000	-00.4001	-00.4001	00.0000
14.3700	09.4900	00.0797	00.0796	00.0000	-00.4191	-00.4187	-00.0003
11.9800	09.0100	00.1261	00.1259	00.0001	-00.4118	-00.4119	00.0001
10.0200	09.2300	00.1627	00.1630	-00.0003	-00.4188	-00.4184	-00.0003
07.4800	08.7300	00.2118	00.2120	-00.0002	-00.4116	-00.4114	-00.0001
15.0300	09.7400	00.0666	00.0666	-00.0000	-00.4231	-00.4229	-00.0001
08.1200	09.9300	00.1980	00.1981	-00.0001	-00.4345	-00.4344	-00.0000
06.1400	09.6800	00.2359	00.2361	-00.0002	-00.4319	-00.4317	-00.0001
11.4600	10.5600	00.1337	00.1337	-00.0000	-00.4431	-00.4431	00.0000
13.6300	11.1800	00.0910	00.0914	-00.0004	-00.4530	-00.4530	00.0000
06.8000	11.0600	00.2215	00.2216	-00.0001	-00.4602	-00.4584	-00.0017
05.0800	10.8000	00.2546	00.2546	-00.0000	-00.4553	-00.4552	-00.0000
10.8400	11.4300	00.1444	00.1442	00.0001	-00.4612	-00.4611	-00.0000
13.2100	12.0800	00.0981	00.0981	-00.0000	-00.4710	-00.4713	00.0003
12.1900	12.0000	00.1180	00.1177	00.0002	-00.4711	-00.4708	-00.0002
11.3700	12.0000	00.1335	00.1333	00.0001	-00.4712	-00.4718	00.0006
07.6300	12.1600	00.2043	00.2042	00.0000	-00.4792	-00.4792	-00.0000
05.9100	11.7100	00.2379	00.2375	00.0003	-00.4724	-00.4723	-00.0000
09.6500	12.6400	00.1651	00.1652	-00.0001	-00.4864	-00.4864	00.0000
05.2400	12.4700	00.2490	00.2491	-00.0001	-00.4882	-00.4882	00.0000
07.1700	12.9100	00.2121	00.2119	00.0001	-00.4947	-00.4947	00.0000
11.5900	13.4300	00.1271	00.1271	-00.0000	-00.5000	-00.4999	-00.0000
09.2300	13.2900	00.1723	00.1722	00.0000	-00.4998	-00.4998	00.0000
07.9300	13.3000	00.1969	00.1969	-00.0000	-00.5013	-00.5015	00.0002
04.5800	13.2800	00.2605	00.2604	00.0000	-00.5048	-00.5051	00.0003
11.6000	13.9800	00.1262	00.1261	00.0000	-00.5111	-00.5108	-00.0002
06.3700	13.9900	00.2258	00.2255	00.0002	-00.5171	-00.5171	00.0000
11.2900	14.8300	00.1309	00.1307	00.0001	-00.5283	-00.5280	-00.0002
07.6100	14.6200	00.2011	00.2010	00.0000	-00.5282	-00.5281	-00.0000
05.2100	14.2000	00.2467	00.2471	-00.0004	-00.5226	-00.5226	00.0000
07.2900	14.8900	00.2068	00.2067	00.0000	-00.5336	-00.5339	00.0003
XSI RMS.=		.19476679E-03		ETA RMS.=		.29767715E-03	

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
PARROT R	.0406	-.2389	17.00	00.52	006.0	A			C6B
	.0427	-.2384	16.89	00.49	002.7	B			C6B
	.0463	-.2335	16.72	00.23	003.0	B			C6B
	.0533	-.2335	16.36	00.21	010.7	A			C6B
	.0535	-.2394	16.33	00.51	002.7	C			C6B
	.0609	-.2386	15.95	00.45	005.7	B			C6B
	.0730	-.2348	15.33	00.22	002.7	C			C6B
	.0975	-.2381	14.05	00.32	002.7	B			C6B
	.1255	-.2361	12.60	00.14	003.4	A			C6B
	.1357	-.2376	12.06	00.19	001.3	C			C6B
	.1566	-.2388	10.97	00.19	002.7	C			C6B
	.1616	-.2383	10.71	00.15	005.4	B			C6B
	.0413	-.2425	16.95	00.70	006.7	B			C6B
	.0448	-.2423	16.77	00.68	002.7	A			C6B
	.0612	-.2458	15.91	00.81	018.5	A	B5		C6B
VOGEL A	.0900	-.2430	14.42	00.59	008.1	B			C6B
	.0929	-.2402	14.28	00.44	001.7	C			C6B
	.0951	-.2427	14.16	00.56	010.1	A			C6B
	.0967	-.2479	14.06	00.82	021.2	A	C4	*1	C6B
	.1005	-.2422	13.88	00.52	004.0	A			C6B
	.1098	-.2447	13.39	00.62	001.0	B			C6B
	.1165	-.2472	13.03	00.73	008.4	B			C6B
	.1279	-.2465	12.44	00.66	004.0	A			C6B
	.1416	-.2481	11.72	00.70	001.3	B			C6B
	.1520	-.2482	11.18	00.68	003.4	A			C6B
	.1522	-.2437	11.18	00.45	009.4	C			C6B
	.1803	-.2433	09.72	00.35	006.0	A			C6B
	.1826	-.2484	09.58	00.60	003.4	C			C6B
	.1824	-.2454	09.60	00.45	004.0	C			C6B
	.1830	-.2417	09.58	00.26	002.0	B			C6B
PARROT	.1915	-.2408	09.14	00.19	004.0	A			C6B
	.1939	-.2421	09.01	00.25	004.4	B			C6B
	.0560	-.2516	16.16	01.12	070.2	A			C6B
	.0666	-.2520	15.61	01.11	002.4	B			C6B
	.1056	-.2536	13.58	01.08	003.7	B			C6B
	.1081	-.2533	13.45	01.06	001.0	C			C6B
	.1106	-.2588	13.30	01.33	001.0	C			C6B
	.1114	-.2559	13.27	01.18	003.4	B			C6B
	.1127	-.2567	13.20	01.22	002.7	C			C6B
	.1142	-.2562	13.12	01.19	002.7	B			C6B
	.1149	-.2545	13.09	01.10	002.7	A			C6B
	.1185	-.2527	12.91	01.00	003.0	A			C6B
	.1186	-.2547	12.90	01.10	006.7	A			C6B
	.1201	-.2599	12.80	01.36	002.0	C			C6B
	.1234	-.2532	12.65	01.01	003.0	A			C6B
BURNHAM A	.1256	-.2588	12.52	01.29	001.3	C			C6B
	.1363	-.2598	11.96	01.31	002.0	B			C6B
	.1427	-.2582	11.63	01.21	001.0	C			C6B
	.1594	-.2520	10.78	00.85	003.4	B			C6B
	.1740	-.2576	10.00	01.09	007.7	A			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
ABULFEDA K	.1786	-.2573	09.76	01.06	008.7	A			C6B
	.1817	-.2533	09.61	00.85	003.0	B			C6B
	.1832	-.2573	09.52	01.05	004.4	A			C6B
	.1847	-.2517	09.46	00.76	004.0	B			C6B
	.2028	-.2570	08.50	00.98	003.4	B			C6B
	.2141	-.2567	07.91	00.93	002.4	B			C6B
	.2155	-.2554	07.84	00.86	002.7	B			C6B
	.2179	-.2500	07.73	00.58	003.7	C			C6B
	.0657	-.2691	15.60	01.98	001.7	B			C6B
	.0799	-.2673	14.87	01.85	003.7	B		*2	C6B
	.0832	-.2640	14.71	01.67	005.4	A			C6B
	.0860	-.2651	14.56	01.72	004.7	B			C6B
ARGELANDER B	.0866	-.2681	14.52	01.87	006.4	B			C6B
	.0921	-.2635	14.25	01.62	001.0	B			C6B
VOGEL	.0986	-.2601	13.92	01.43	026.9	A			C6B
	.1144	-.2659	13.08	01.68	002.7	B			C6B
	.1168	-.2674	12.95	01.75	005.7	A		*2	C6B
	.1211	-.2605	12.75	01.39	002.7	C			C6B
BURNHAM B	.1218	-.2645	12.70	01.59	003.7	B			C6B
	.1278	-.2609	12.40	01.39	001.7	B			C6B
	.1424	-.2629	11.63	01.45	003.4	B			C6B
	.1493	-.2667	11.26	01.62	002.0	C			C6B
	.1502	-.2699	11.20	01.78	003.7	B			C6B
	.1583	-.2632	10.80	01.42	002.7	B			C6B
	.1596	-.2667	10.72	01.59	003.7	B			C6B
	.1677	-.2610	10.32	01.28	004.0	A			C6B
	.1685	-.2664	10.26	01.55	004.0	A			C6B
	.1719	-.2697	10.07	01.71	003.0	B			C6B
ABULFEDA O	.1871	-.2660	09.29	01.48	006.7	A			C6B
ABULFEDA P	.1941	-.2668	08.92	01.50	004.7	A			C6B
	.1989	-.2669	08.67	01.49	002.7	C			C6B
	.2005	-.2688	08.58	01.58	003.0	C			C6B
	.2096	-.2675	08.11	01.49	002.7	B			C6B
	.0447	-.2790	16.66	02.54	001.0	C			C6B
	.0545	-.2790	16.15	02.51	016.8	C	B4		C6B
	.0598	-.2741	15.89	02.25	010.1	C			C6B
	.0697	-.2737	15.38	02.20	007.4	B			C6B
PARROT S	.0813	-.2753	14.77	02.25	005.0	B			C6B
	.0886	-.2730	14.40	02.11	002.4	B			C6B
ARGELANDER C	.0961	-.2793	13.99	02.41	004.4	A			C6B
	.1130	-.2789	13.11	02.34	002.7	B			C6B
	.1214	-.2705	12.70	01.89	002.7	B			C6B
	.1216	-.2768	12.67	02.21	002.7	C			C6B
AIRY P	.1402	-.2733	11.71	01.98	007.1	A			C6B
	.1418	-.2765	11.62	02.14	003.4	B			C6B
	.1690	-.2729	10.21	01.88	004.7	A			C6B
	.1813	-.2782	09.55	02.11	001.7	C			C6B
	.1945	-.2780	08.86	02.06	002.7	B			C6B
	.1953	-.2744	08.83	01.88	002.7	B			C6B
	.2002	-.2707	08.59	01.68	003.0	C			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
ABULFEDA M	.2017	-.2792	08.48	02.10	008.7	B			C6B
	.2035	-.2759	08.40	01.93	002.4	C			C6B
ABULFEDA F	.2192	-.2782	07.57	02.00	014.8	A			C6B
	.0453	-.2822	16.62	02.70	002.4	B			C6B
	.0533	-.2888	16.18	03.01	017.1	C	B4		C6B
	.0891	-.2890	14.32	02.92	001.3	C			C6B
ARGELANDER	.0974	-.2829	13.91	02.59	031.2	A	B4	*1	C6B
	.1082	-.2881	13.33	02.82	003.7	C			C6B
ARGELANDER A	.1131	-.2840	13.09	02.60	009.7	A			C6B
	.1183	-.2837	12.82	02.57	001.7	C			C6B
	.1215	-.2841	12.65	02.58	004.4	B	B5		C6B
	.1243	-.2854	12.50	02.64	001.0	C			C6B
	.1275	-.2811	12.35	02.41	001.0	C			C6B
	.1355	-.2843	11.92	02.55	002.7	B			C6B
AIRY O	.1395	-.2879	11.70	02.72	003.4	C			C6B
	.1428	-.2841	11.54	02.52	001.3	C			C6B
	.1468	-.2879	11.32	02.70	001.0	C			C6B
	.1495	-.2881	11.18	02.70	001.0	C			C6B
	.1513	-.2838	11.10	02.48	002.7	B			C6B
	.1615	-.2826	10.57	02.39	001.3	C			C6B
ABULFEDA E	.1692	-.2882	10.15	02.65	004.4	B			C6B
	.0707	-.2882	15.28	02.93	018.5	C	B4	*2	C6B
	.1758	-.2894	09.80	02.69	003.0	C			C6B
ABULFEDA A	.1801	-.2827	09.60	02.34	013.4	A			C6B
	.1867	-.2896	09.23	02.67	002.4	B			C6B
	.1888	-.2871	09.13	02.54	003.4	B			C6B
	.1943	-.2843	08.85	02.38	001.3	B			C6B
	.1956	-.2826	08.79	02.29	002.4	C			C6B
	.1980	-.2871	08.65	02.51	002.0	C			C6B
	.2013	-.2892	08.47	02.61	002.0	C			C6B
	.2034	-.2836	08.38	02.32	003.0	C			C6B
	.2038	-.2862	08.35	02.45	004.0	B			C6B
	.2160	-.2800	07.73	02.10	010.7	A			C6B
	.2280	-.2870	07.08	02.42	002.7	B			C6B
	.0529	-.2957	16.18	03.36	003.4	B			C6B
	.0569	-.2939	15.98	03.26	003.0	B			C6B
	.1035	-.2902	13.57	02.94	003.4	B			C6B
AIRY A	.1281	-.2928	12.28	03.00	012.8	A			C6B
	.1354	-.2976	11.88	03.22	003.7	C			C6B
	.1359	-.2936	11.87	03.02	002.4	C			C6B
	.1373	-.2929	11.80	02.98	003.0	C			C6B
	.1425	-.2950	11.52	03.07	003.7	B			C6B
	.1484	-.2924	11.22	02.92	002.4	B			C6B
	.1542	-.2913	10.92	02.85	003.0	C			C6B
	.1562	-.2964	10.80	03.10	005.4	A			C6B
	.1666	-.2904	10.28	02.77	003.7	C			C6B
	.1864	-.2939	09.23	02.89	004.0	B			C6B
	.1943	-.2904	08.83	02.69	004.7	B			C6B
	.1945	-.2940	08.81	02.87	003.4	B			C6B
	.2002	-.2977	08.50	03.04	002.7	A			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.2019	-.2922	08.43	02.76	003.0	B			C6B
	.2303	-.2925	06.94	02.69	002.7	B			C6B
	.0547	-.3007	16.07	03.61	003.4	B			C6B
	.0584	-.3085	15.85	03.99	003.4	C			C6B
	.0591	-.3065	15.82	03.89	003.7	C			C6B
	.0649	-.3064	15.52	03.87	002.0	C			C6B
	.0658	-.3049	15.48	03.79	003.4	B			C6B
	.0696	-.3061	15.28	03.84	002.7	B			C6B
ARGELANDER D	.0742	-.3026	15.05	03.65	010.4	A			C6B
	.0836	-.3055	14.55	03.77	005.0	C			C6B
AIRY N	.1358	-.3063	11.83	03.66	009.1	B			C6B
AIRY B	.1406	-.3034	11.59	03.50	029.6	A			C6B
	.1519	-.3003	11.01	03.31	004.4	A			C6B
	.1582	-.3099	10.65	03.78	003.4	C		*2	C6B
	.1642	-.3099	10.34	03.76	002.0	A			C6B
	.1727	-.3086	09.90	03.67	003.0	C			C6B
	.1741	-.3065	09.83	03.56	005.4	C			C6B
	.1743	-.3097	09.81	03.72	003.0	B			C6B
	.1750	-.3028	09.80	03.37	005.4	A			C6B
	.1789	-.3032	09.59	03.38	003.4	A			C6B
	.1884	-.3020	09.10	03.29	002.7	A			C6B
	.1925	-.3099	08.86	03.68	003.0	B			C6B
	.2014	-.3047	08.41	03.39	002.4	B			C6B
	.2063	-.3087	08.14	03.58	003.7	B			C6B
	.2160	-.3042	07.65	03.32	002.7	B			C6B
	.2209	-.3056	07.39	03.38	003.4	C			C6B
ALMANON E	.2244	-.3068	07.20	03.43	006.0	B			C6B
	.0581	-.3106	15.86	04.10	002.7	C			C6B
	.0789	-.3142	14.77	04.22	002.7	C			C6B
	.0817	-.3153	14.62	04.27	004.4	A			C6B
AIRY	.0941	-.3105	13.99	03.99	038.6	B	B4	*1,2	C6B
	.1146	-.3199	12.89	04.41	025.2	B	B4	*1,2	C6B
	.1187	-.3196	12.68	04.38	002.7	C			C6B
	.1198	-.3145	12.64	04.12	002.7	B			C6B
	.1205	-.3120	12.61	03.99	004.4	B			C6B
	.1252	-.3164	12.35	04.20	002.0	B			C6B
	.1271	-.3102	12.27	03.88	004.0	B			C6B
	.1282	-.3150	12.20	04.12	002.4	B			C6B
	.1308	-.3131	12.07	04.02	003.4	B			C6B
	.1326	-.3146	11.97	04.09	004.0	B			C6B
	.1404	-.3157	11.56	04.12	003.0	B			C6B
	.1518	-.3195	10.95	04.28	003.4	C			C6B
	.1543	-.3135	10.84	03.97	002.7	B			C6B
	.1560	-.3168	10.74	04.13	002.7	B			C6B
	.1779	-.3109	09.62	03.77	003.0	C			C6B
	.1798	-.3193	09.49	04.19	002.7	C			C6B
	.1849	-.3178	09.23	04.10	003.0	B			C6B
	.1879	-.3156	09.08	03.98	001.0	C			C6B
	.1909	-.3140	08.93	03.89	001.0	C			C6B
	.1951	-.3135	08.71	03.85	006.0	B			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.1953	-.3160	08.69	03.98	004.4	B			C6B
	.2006	-.3150	08.42	03.91	002.7	B			C6B
	.2135	-.3100	07.76	03.62	003.4	B			C6B
	.2140	-.3171	07.71	03.98	002.7	C			C6B
AIRY P	.0490	-.3210	16.30	04.65	006.7	A			C6B
	.0733	-.3231	15.03	04.69	004.4	B			C6B
	.0843	-.3250	14.45	04.75	009.7	B			C6B
	.0908	-.3202	14.13	04.49	003.4	A			C6B
	.0916	-.3275	14.06	04.86	001.7	C			C6B
	.0996	-.3230	13.66	04.61	003.4	A			C6B
AIRY J	.1006	-.3263	13.60	04.77	004.4	A			C6B
	.1281	-.3278	12.16	04.77	002.0	C			C6B
	.1423	-.3283	11.42	04.75	004.0	B			C6B
	.1463	-.3247	11.22	04.56	004.0	A			C6B
	.1539	-.3293	10.81	04.77	034.6	B	A4	*3,4	C6B
	.1549	-.3254	10.77	04.57	002.4	B			C6B
	.1555	-.3221	10.75	04.40	002.4	B			C6B
	.1621	-.3296	10.38	04.76	002.7	A			C6B
	.1667	-.3295	10.14	04.74	001.7	B			C6B
	.1690	-.3235	10.04	04.43	003.4	A			C6B
	.1721	-.3236	09.88	04.43	001.3	B			C6B
	.1733	-.3281	09.80	04.65	003.0	B			C6B
	.1774	-.3233	09.60	04.40	003.4	B			C6B
	.1776	-.3265	09.58	04.56	003.7	B			C6B
	.1820	-.3216	09.37	04.30	001.7	C			C6B
	.1828	-.3231	09.32	04.37	001.7	C			C6B
	.0831	-.3203	14.53	04.52	006.7	C			C6B
	.1882	-.3259	09.03	04.50	003.0	B			C6B
GEBER D	.1944	-.3299	08.69	04.68	005.4	B			C6B
GEBER B	.2119	-.3257	07.79	04.42	019.8	A			C6B
	.2367	-.3224	06.50	04.18	002.4	B			C6B
	.0626	-.3312	15.56	05.13	003.0	A			C6B
DONATI A	.0741	-.3368	14.94	05.38	008.4	A			C6B
AIRY C	.0794	-.3320	14.68	05.12	036.9	C	B4		C6B
AIRY H	.0946	-.3206	13.93	04.50	010.4	A			C6B
	.1400	-.3398	11.50	05.34	004.0	B			C6B
	.1410	-.3302	11.48	04.85	002.7	B			C6B
	.1423	-.3310	11.41	04.89	003.0	C			C6B
AIRY R	.1441	-.3351	11.30	05.09	006.7	A			C6B
	.1558	-.3316	10.70	04.88	001.0	C			C6B
	.1620	-.3345	10.37	05.01	001.3	B			C6B
	.1646	-.3345	10.23	05.00	002.7	B			C6B
	.1823	-.3316	09.32	04.80	002.0	B			C6B
	.1959	-.3365	08.59	05.01	002.7	B			C6B
	.1994	-.3349	08.41	04.92	003.7	B			C6B
	.2135	-.3328	07.68	04.77	002.0	B			C6B
GEBER	.2263	-.3325	07.01	04.72	046.4	A			C6B
DONATI C	.0565	-.3414	15.84	05.66	007.4	B			C6B
	.0612	-.3427	15.59	05.71	003.4	B			C6B
	.0629	-.3461	15.49	05.88	001.3	C			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.0668	-.3463	15.29	05.88	004.4	C			C6B
	.0712	-.3432	15.07	05.71	004.0	B			C6B
	.0723	-.3494	14.99	06.02	007.7	B			C6B
	.0879	-.3434	14.20	05.67	003.7	B			C6B
DONATI B	.0927	-.3488	13.93	05.93	010.7	B			C6B
	.0925	-.3432	13.96	05.65	006.7	B			C6B
	.1036	-.3472	13.37	05.82	002.4	C			C6B
AIRY L	.1234	-.3494	12.33	05.87	007.1	A			C6B
	.1349	-.3441	11.75	05.57	002.4	C			C6B
	.1476	-.3496	11.07	05.81	003.7	C			C6B
	.1608	-.3464	10.39	05.61	001.0	C			C6B
ABENEZRA P	.1624	-.3429	10.32	05.43	036.3	B		*3,4	C6B
	.1702	-.3408	09.92	05.30	002.7	B			C6B
	.1750	-.3405	09.67	05.27	004.0	B			C6B
	.1848	-.3480	09.13	05.62	003.7	B			C6B
	.1942	-.3418	08.66	05.28	002.4	B			C6B
	.2003	-.3415	08.34	05.25	003.4	B			C6B
	.2006	-.3431	08.32	05.33	001.7	B			C6B
	.2122	-.3416	07.72	05.22	002.0	B			C6B
GEBER F	.2141	-.3411	07.62	05.19	005.4	A			C6B
	.2377	-.3431	06.38	05.22	003.0	B			C6B
	.0566	-.3525	15.80	06.22	003.0	C			C6B
	.0629	-.3590	15.45	06.53	003.4	B			C6B
	.0638	-.3535	15.42	06.25	002.7	C			C6B
	.0659	-.3530	15.31	06.22	003.7	C			C6B
DONATI	.0838	-.3533	14.38	06.18	032.6	B			C6B
	.1015	-.3531	13.46	06.12	010.7	C	A4	*1	C6B
	.1199	-.3595	12.48	06.39	002.4	C			C6B
AIRY E	.1227	-.3541	12.35	06.11	040.3	B	B4	*1	C6B
	.1265	-.3581	12.14	06.30	003.0	C			C6B
	.1488	-.3536	10.99	06.01	002.4	B			C6B
ABENEZRA B	.1640	-.3553	10.19	06.05	013.8	A			C6B
ABENEZRA G	.1793	-.3504	09.41	05.76	005.0	A			C6B
ABENEZRA	.1937	-.3578	08.63	06.09	041.0	A			C6B
	.2102	-.3506	07.79	05.68	006.4	A			C6B
	.2231	-.3558	07.10	05.90	003.0	B			C6B
	.2268	-.3598	06.89	06.09	002.7	B			C6B
	.2346	-.3598	06.48	06.07	004.0	A			C6B
	.2399	-.3550	06.22	05.81	005.7	B			C6B
	.2410	-.3505	06.18	05.58	004.7	B			C6B
FAYE	.0643	-.3630	15.36	06.73	039.0	C		*1,2	C6B
	.0745	-.3662	14.82	06.86	002.7	C			C6B
	.0925	-.3666	13.88	06.83	003.0	B			C6B
	.0927	-.3607	13.89	06.53	004.4	C			C6B
	.0967	-.3611	13.68	06.54	003.0	C			C6B
	.0972	-.3621	13.65	06.59	002.4	C			C6B
	.1033	-.3657	13.32	06.75	003.0	B			C6B
	.1110	-.3604	12.94	06.46	015.8	B	B4		C6B
	.1182	-.3699	12.53	06.92	004.0	B			C6B
	.1245	-.3675	12.21	06.78	007.7	B			C6B



CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.1292	-.3662	11.97	06.70	002.4	C			C6B
	.1402	-.3682	11.39	06.77	001.0	C			C6B
	.1408	-.3625	11.38	06.48	002.7	B			C6B
	.1483	-.3609	10.99	06.38	004.7	A			C6B
	.1611	-.3672	10.30	06.66	003.4	B			C6B
	.1655	-.3619	10.09	06.38	003.0	A			C6B
ABENEZRA F	.1674	-.3676	09.97	06.66	006.4	A			C6B
ABENEZRA C	.1791	-.3641	09.37	06.45	040.0	B			C6B
	.2130	-.3627	07.60	06.28	009.4	B			C6B
	.2132	-.3655	07.58	06.42	004.7	B			C6B
	.2155	-.3609	07.48	06.18	002.4	C			C6B
	.2166	-.3613	07.42	06.20	002.0	C			C6B
	.2187	-.3615	07.31	06.20	002.0	B			C6B
	.2234	-.3621	07.06	06.22	002.7	C			C6B
	.2243	-.3654	07.00	06.38	002.7	B			C6B
	.2246	-.3640	06.99	06.31	002.4	B			C6B
	.2282	-.3640	06.80	06.30	004.0	C			C6B
	.2344	-.3624	06.48	06.20	002.7	B			C6B
	.2353	-.3660	06.42	06.38	022.2	C	B4		C6B
	.2378	-.3638	06.30	06.26	003.0	A			C6B
	.2397	-.3671	06.19	06.42	002.7	C			C6B
	.2410	-.3662	06.12	06.37	003.4	C			C6B
	.2421	-.3676	06.06	06.44	003.7	B			C6B
	.0606	-.3721	15.52	07.20	003.0	B			C6B
	.0822	-.3738	14.39	07.22	004.7	B			C6B
	.0932	-.3762	13.81	07.31	004.7	A			C6B
PLAYFAIR A	.1109	-.3792	12.88	07.41	023.5	C	B4		C6B
	.1190	-.3749	12.47	07.17	002.7	B			C6B
	.1213	-.3727	12.36	07.05	001.7	C			C6B
	.1258	-.3735	12.12	07.08	004.7	B			C6B
	.1275	-.3716	12.04	06.98	003.7	B			C6B
PLAYFAIR F	.1313	-.3724	11.84	07.01	005.0	B			C6B
	.1396	-.3763	11.39	07.18	001.0	C			C6B
PLAYFAIR E	.1440	-.3708	11.18	06.89	006.7	B			C6B
	.1487	-.3774	10.91	07.21	002.7	B			C6B
ABENEZRA D	.1565	-.3703	10.53	06.83	004.4	B			C6B
	.1569	-.3793	10.48	07.28	002.0	B			C6B
	.1701	-.3733	09.81	06.94	003.7	B			C6B
AZOPHI	.2041	-.3783	08.01	07.09	047.4	A			C6B
	.2046	-.3744	08.00	06.89	003.0	A			C6B
AZOPHI C	.2100	-.3711	07.73	06.71	004.0	A			C6B
AZOPHI F	.2218	-.3793	07.08	07.09	006.0	B			C6B
	.2249	-.3738	06.94	06.80	002.4	C			C6B
	.2359	-.3718	06.37	06.67	013.1	A			C6B
GEBER A	.2380	-.3775	06.24	06.95	010.1	A			C6B
GEBER C	.0731	-.3848	14.83	07.80	004.0	A			C6B
FAYE B	.0874	-.3862	14.08	07.83	003.0	A			C6B
	.0900	-.3869	13.94	07.86	005.0	A			C6B
	.1007	-.3844	13.39	07.70	002.4	C			C6B
	.1017	-.3809	13.35	07.52	003.7	B			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.1042	-.3844	13.21	07.69	012.8	C	B4		C6B
	.1043	-.3802	13.22	07.48	003.7	B			C6B
	.1080	-.3880	13.00	07.86	002.7	C			C6B
	.1097	-.3847	12.92	07.69	002.7	C			C6B
	.1174	-.3841	12.52	07.64	003.4	B			C6B
	.1212	-.3800	12.34	07.42	003.0	B			C6B
	.1217	-.3800	12.31	07.42	002.7	B			C6B
	.1250	-.3892	12.11	07.87	003.0	B			C6B
	.1283	-.3816	11.96	07.48	005.4	A			C6B
	.1345	-.3816	11.64	07.46	005.4	B			C6B
	.1358	-.3880	11.55	07.78	005.7	B			C6B
	.1372	-.3813	11.50	07.44	003.4	B			C6B
ABENEZRA A	.1678	-.3877	09.88	07.67	023.2	A			C6B
	.1784	-.3861	09.33	07.56	002.4	C			C6B
	.1824	-.3858	09.12	07.53	001.7	C			C6B
	.1860	-.3810	08.95	07.28	003.0	C			C6B
	.1913	-.3897	08.64	07.70	003.0	C			C6B
	.2001	-.3898	08.18	07.68	004.0	B			C6B
	.2051	-.3807	07.95	07.21	001.7	B			C6B
	.2178	-.3831	07.28	07.29	001.7	C			C6B
	.2219	-.3813	07.07	07.19	003.7	B			C6B
	.2228	-.3870	07.00	07.47	003.7	B			C6B
	.2233	-.3834	06.99	07.29	002.0	C			C6B
	.2234	-.3844	06.98	07.34	002.7	B			C6B
	.2289	-.3818	06.70	07.19	002.4	C			C6B
	.2294	-.3828	06.67	07.24	001.3	C			C6B
	.2305	-.3868	06.60	07.44	003.7	B			C6B
SACROBOSCO K	.2341	-.3892	06.40	07.55	006.0	A			C6B
	.2346	-.3825	06.40	07.21	001.7	C			C6B
	.2347	-.3809	06.40	07.13	002.0	C			C6B
	.0884	-.3904	14.01	08.04	003.4	B			C6B
	.0940	-.3933	13.71	08.17	005.4	C		*5	C6B
	.0941	-.3977	13.69	08.39	003.7	C		*5	C6B
	.0960	-.3948	13.60	08.24	004.4	C		*5	C6B
	.1124	-.3964	12.74	08.27	002.7	A			C6B
PLAYFAIR B	.1218	-.3937	12.26	08.11	006.4	B			C6B
PLAYFAIR	.1354	-.3997	11.53	08.37	047.0	A			C6B
	.1362	-.3962	11.50	08.19	003.7	A			C6B
	.1380	-.3969	11.40	08.22	003.0	A			C6B
	.1489	-.3953	10.84	08.11	002.4	B			C6B
	.1567	-.3952	10.43	08.08	003.4	B			C6B
	.1586	-.3981	10.32	08.22	002.0	C			C6B
	.1589	-.3915	10.33	07.89	004.7	C			C6B
	.1700	-.3997	09.72	08.27	001.3	B			C6B
	.1874	-.3906	08.84	07.76	010.1	B	B4		C6B
	.1914	-.3919	08.63	07.81	003.4	B			C6B
	.2038	-.3944	07.97	07.90	003.0	C			C6B
	.2047	-.3923	07.93	07.79	002.7	C			C6B
	.2077	-.3904	07.78	07.69	001.0	C			C6B
	.2186	-.3937	07.20	07.82	003.0	C			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
AZOPHI E	.2190	-.3983	07.16	08.05	006.0	A			C6B
	.2228	-.3951	06.97	07.88	002.7	C			C6B
	.0642	-.4075	15.21	08.97	003.7	B			C6B
	.0705	-.4048	14.89	08.82	003.4	B			C6B
	.0819	-.4097	14.28	09.03	002.4	C			C6B
	.0834	-.4052	14.22	08.80	002.0	C			C6B
	.0856	-.4041	14.11	08.74	002.0	C			C6B
	.0898	-.4046	13.89	08.75	001.3	A			C6B
	.0928	-.4046	13.73	08.74	002.7	A			C6B
	.1026	-.4025	13.23	08.61	003.0	A			C6B
	.1029	-.4085	13.19	08.91	114.2	A			C6B
	.1100	-.4091	12.82	08.92	002.7	C			C6B
	.1133	-.4004	12.68	08.47	002.0	A			C6B
	.1234	-.4093	12.12	08.89	003.7	C			C6B
	.1316	-.4062	11.70	08.71	002.7	C			C6B
	.1481	-.4070	10.84	08.70	002.7	C			C6B
	.1489	-.4055	10.80	08.62	003.0	B			C6B
	.1550	-.4064	10.48	08.65	005.4	B			C6B
	.1576	-.4046	10.35	08.55	003.0	B			C6B
AZOPHI B	.1696	-.4003	09.74	08.30	020.5	A			C6B
	.1771	-.4053	09.33	08.53	003.0	B			C6B
	.1782	-.4078	09.26	08.65	002.0	C			C6B
	.1797	-.4091	09.18	08.71	001.7	C			C6B
	.1880	-.4026	08.77	08.36	002.7	C			C6B
	.1926	-.4011	08.53	08.27	003.4	C			C6B
	.1938	-.4033	08.46	08.38	002.4	C			C6B
	.1961	-.4039	08.34	08.40	055.8	A		*2	C6B
	.2146	-.4010	07.38	08.20	002.7	B			C6B
	.2239	-.4012	06.89	08.18	002.7	C			C6B
	.2240	-.4081	06.86	08.53	002.4	C			C6B
	.2259	-.4060	06.77	08.42	004.4	A			C6B
SACROBOSCO J	.2305	-.4001	06.55	08.11	005.4	A			C6B
	.2306	-.4075	06.52	08.48	002.4	C			C6B
	.0671	-.4152	15.03	09.35	010.7	C	B4	*2	C6B
BLANCHINUS K	.0740	-.4102	14.69	09.08	002.7	C			C6B
	.0796	-.4187	14.37	09.49	008.4	A			C6B
	.0845	-.4164	14.12	09.36	002.7	C			C6B
	.0984	-.4134	13.41	09.17	003.0	C			C6B
	.1014	-.4196	13.23	09.47	003.0	C			C6B
	.1062	-.4117	13.01	09.06	002.7	C			C6B
	.1072	-.4127	12.95	09.11	002.7	C			C6B
	.1075	-.4110	12.94	09.02	002.0	C			C6B
	.1159	-.4127	12.50	09.08	002.7	C			C6B
	.1259	-.4119	11.98	09.01	005.0	A			C6B
PLAYFAIR C									
PLAYFAIR D	.1388	-.4106	11.31	08.91	004.4	A			C6B
	.1476	-.4107	10.85	08.89	003.4	B			C6B
	.1556	-.4146	10.42	09.06	003.0	B			C6B
APIANUS M	.1630	-.4184	10.02	09.23	006.7	A			C6B
	.1703	-.4194	09.63	09.26	002.7	C			C6B
AZOPHI A	.1776	-.4137	09.27	08.95	028.6	A			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.1779	-.4159	09.25	09.06	003.4	C			C6B
	.1938	-.4115	08.43	08.79	002.4	C			C6B
	.1976	-.4173	08.21	09.07	002.7	B			C6B
AZOPHI D	.2120	-.4114	07.48	08.73	009.4	A			C6B
	.2125	-.4176	07.43	09.04	002.7	B			C6B
	.2157	-.4128	07.28	08.79	002.7	B			C6B
PONTANUS N	.2179	-.4173	07.15	09.01	010.1	A			C6B
	.2185	-.4110	07.14	08.69	001.7	C			C6B
	.2185	-.4138	07.13	08.83	002.0	C			C6B
	.2191	-.4128	07.10	08.78	002.7	B			C6B
	.2242	-.4105	06.84	08.65	002.0	C			C6B
	.2277	-.4105	06.66	08.64	004.4	C			C6B
	.2287	-.4144	06.59	08.83	003.4	C			C6B
BLANCHINUS D	.0666	-.4229	15.03	09.74	006.7	B			C6B
	.0757	-.4252	14.55	09.83	009.4	C			C6B
	.1054	-.4226	13.01	09.61	002.0	C			C6B
	.1146	-.4261	12.52	09.76	002.4	C			C6B
	.1295	-.4262	11.74	09.72	003.4	C			C6B
	.1301	-.4234	11.72	09.58	003.0	C			C6B
	.1345	-.4255	11.48	09.67	002.0	C			C6B
APIANUS P	.1438	-.4248	11.00	09.61	053.1	B	B4		C6B
	.1519	-.4293	10.56	09.81	002.4	C			C6B
	.1635	-.4214	09.98	09.38	002.7	C			C6B
	.1640	-.4252	09.94	09.57	003.0	C			C6B
	.1655	-.4263	09.86	09.62	004.0	A			C6B
	.1766	-.4250	09.28	09.52	004.4	B			C6B
	.2024	-.4253	07.93	09.46	002.7	C			C6B
	.2046	-.4265	07.81	09.51	003.0	B			C6B
PONTANUS E	.2083	-.4257	07.62	09.46	013.1	A	B4		C6B
	.2155	-.4233	07.25	09.32	002.4	C			C6B
	.2181	-.4217	07.12	09.23	002.4	C			C6B
	.2213	-.4247	06.94	09.37	002.7	C			C6B
	.2297	-.4218	06.51	09.20	006.4	B			C6B
	.2468	-.4256	05.60	09.34	007.4	B	B4		C6B
	.0668	-.4344	14.98	10.32	003.0	B			C6B
	.0736	-.4390	14.61	10.53	003.7	A			C6B
	.0911	-.4354	13.71	10.30	001.3	C			C6B
APIANUS A	.1030	-.4326	13.10	10.12	013.1	A			C6B
	.1045	-.4378	13.00	10.38	009.7	A			C6B
	.1172	-.4378	12.34	10.34	003.0	C			C6B
	.1178	-.4311	12.33	10.00	007.7	B			C6B
	.1561	-.4369	10.31	10.18	002.7	C			C6B
	.1570	-.4330	10.28	09.98	002.4	C			C6B
APIANUS D	.1674	-.4398	09.71	10.29	033.6	B			C6B
	.1731	-.4379	09.42	10.18	002.4	B			C6B
	.1793	-.4337	09.11	09.95	005.7	B			C6B
	.1856	-.4311	08.79	09.80	020.2	B	B4		C6B
PONTANUS K	.1981	-.4344	08.12	09.93	008.7	A			C6B
PONTANUS D	.2063	-.4369	07.68	10.03	019.5	A			C6B
PONTANUS O	.2192	-.4393	07.00	10.11	010.1	A			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
SACROBOSCO L	.2361	-.4317	06.14	09.68	008.4	A			C6B
	.0675	-.4434	14.91	10.77	002.0	A			C6B
	.0782	-.4496	14.33	11.05	004.0	B			C6B
KRUSENSTERN	.0926	-.4413	13.61	10.59	050.4	A			C6B
	.0970	-.4435	13.37	10.69	003.0	C			C6B
	.1079	-.4444	12.80	10.70	003.7	B			C6B
	.1181	-.4466	12.26	10.78	002.7	B			C6B
	.1188	-.4415	12.24	10.52	006.4	B			C6B
	.1282	-.4418	11.75	10.51	002.4	C			C6B
	.1293	-.4455	11.68	10.69	001.7	C			C6B
APIANUS J	.1337	-.4431	11.46	10.56	005.7	C5			C6B
	.1597	-.4461	10.09	10.63	003.4	C			C6B
	.1606	-.4491	10.03	10.78	004.7	B			C6B
	.2020	-.4422	07.89	10.31	002.7	B			C6B
KRUSENSTERN A	.0914	-.4530	13.63	11.18	005.7	B			C6B
	.0953	-.4540	13.42	11.22	003.7	B			C6B
	.0955	-.4576	13.40	11.40	003.4	B			C6B
	.1227	-.4598	11.97	11.43	002.7	C			C6B
APIANUS	.1238	-.4533	11.94	11.10	067.2	A			C6B
	.1294	-.4520	11.65	11.02	003.4	B			C6B
	.1295	-.4580	11.62	11.32	002.4	B			C6B
	.1413	-.4535	11.02	11.06	003.0	C			C6B
	.1420	-.4518	10.99	10.97	002.7	C			C6B
	.1700	-.4537	09.52	10.98	002.7	C			C6B
	.1841	-.4549	08.78	11.00	003.0	B			C6B
PONTANUS Q	.2216	-.4584	06.80	11.06	005.4	A			C6B
	.2241	-.4553	06.68	10.90	002.4	B			C6B
	.2253	-.4572	06.61	10.99	002.7	B			C6B
	.2259	-.4534	06.59	10.80	002.4	C			C6B
	.2511	-.4588	05.25	10.99	004.0	B			C6B
SACROBOSCO N	.2546	-.4552	05.08	10.80	006.0	A			C6B
	.0858	-.4662	13.87	11.86	003.7	B			C6B
	.0935	-.4690	13.46	11.98	003.0	A			C6B
	.1097	-.4680	12.62	11.88	002.7	C			C6B
	.1137	-.4684	12.41	11.89	004.0	B			C6B
	.1376	-.4663	11.17	11.71	001.7	B			C6B
	.1390	-.4677	11.09	11.78	015.1	C			C6B
APIANUS B	.1395	-.4602	11.09	11.40	010.4	A			C6B
APIANUS K	.1442	-.4611	10.84	11.43	006.4	C			C6B
	.1463	-.4650	10.72	11.62	011.8	B			C6B
	.1609	-.4667	09.95	11.66	002.7	B			C6B
PONTANUS F	.1773	-.4617	09.11	11.36	004.0	B			C6B
	.1780	-.4673	09.05	11.64	010.4	A			C6B
	.1845	-.4675	08.71	11.63	003.7	B			C6B
	.1965	-.4676	08.08	11.60	004.4	B			C6B
	.1977	-.4693	08.01	11.68	006.7	A			C6B
	.1991	-.4632	07.96	11.37	003.0	C			C6B
	.2328	-.4662	06.18	11.42	003.4	B			C6B
	.2408	-.4667	05.76	11.42	002.4	C			C6B
	.2456	-.4666	05.51	11.40	003.0	C			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.0947	-.4713	13.39	12.09	002.0	C			C6B
APIANUS F	.0981	-.4713	13.21	12.08	006.0	A			C6B
	.1083	-.4743	12.67	12.20	003.0	A			C6B
	.1152	-.4739	12.31	12.16	003.4	B			C6B
	.1162	-.4759	12.25	12.26	003.0	B			C6B
APIANUS G	.1177	-.4708	12.19	12.00	005.0	A			C6B
	.1241	-.4784	11.83	12.36	006.0	B			C6B
APIANUS H	.1333	-.4718	11.37	12.00	007.4	B			C6B
	.1384	-.4761	11.09	12.20	003.7	B			C6B
	.1396	-.4779	11.02	12.29	003.4	B			C6B
	.1520	-.4783	10.37	12.27	002.0	C			C6B
APIANUS C	.1611	-.4715	09.92	11.90	020.2	A			C6B
	.1675	-.4782	09.56	12.22	004.7	B			C6B
	.1749	-.4707	09.20	11.82	003.0	B			C6B
	.1854	-.4703	08.65	11.77	003.0	B			C6B
	.1896	-.4712	08.43	11.80	003.4	B			C6B
PONTANUS L	.2042	-.4792	07.63	12.16	005.7	B			C6B
PONTANUS	.2203	-.4766	06.80	11.98	051.1	A	B4	*1	C6B
PONTANUS R	.2375	-.4723	05.91	11.71	006.0	B			C6B
	.2421	-.4722	05.67	11.69	003.4	B			C6B
	.2462	-.4788	05.43	12.01	006.4	C			C6B
	.2571	-.4727	04.88	11.67	003.4	B			C6B
	.0809	-.4891	14.04	13.03	003.0	B			C6B
	.0860	-.4857	13.79	12.84	004.7	B			C6B
	.0909	-.4832	13.54	12.70	003.7	B			C6B
	.0915	-.4856	13.50	12.82	002.7	B			C6B
	.0966	-.4819	13.25	12.62	003.0	B			C6B
	.1218	-.4824	11.93	12.57	004.0	C			C6B
APIANUS E	.1253	-.4820	11.75	12.54	008.4	A	B5		C6B
	.1466	-.4815	10.64	12.45	001.7	C			C6B
	.1511	-.4828	10.40	12.50	003.4	A			C6B
	.1642	-.4894	09.69	12.79	001.3	C			C6B
APIANUS L	.1652	-.4864	09.65	12.64	004.4	B			C6B
	.1674	-.4850	09.54	12.56	002.7	C			C6B
	.1863	-.4851	08.55	12.51	005.0	B			C6B
PONTANUS T	.2491	-.4882	05.24	12.47	008.4	B			C6B
	.1034	-.4941	12.85	13.21	003.7	B			C6B
ALIACENCIS A	.1127	-.4954	12.36	13.25	013.4	A	B5		C6B
	.1170	-.4961	12.13	13.27	002.4	B			C6B
POISSON R	.1271	-.4999	11.59	13.43	005.4	A			C6B
	.1278	-.4932	11.58	13.09	002.7	C			C6B
	.1279	-.4946	11.57	13.16	003.0	C			C6B
POISSON A	.1385	-.4956	11.01	13.18	016.8	A	B5		C6B
	.1445	-.4944	10.70	13.10	004.4	B			C6B
	.1570	-.4939	10.05	13.04	005.0	B			C6B
	.1582	-.4900	10.00	12.84	001.7	C			C6B
	.1619	-.4938	09.79	13.02	003.0	C			C6B
	.1650	-.4906	09.64	12.85	002.0	C			C6B
POISSON S	.1722	-.4998	09.23	13.29	004.0	A			C6B
	.1769	-.4981	08.99	13.19	003.7	B			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
	.1808	-.4942	08.80	12.98	002.7	B			C6B
PONTANUS M	.2119	-.4947	07.17	12.91	005.4	A			C6B
	.2165	-.4942	06.93	12.87	003.7	A			C6B
PONTANUS P	.2205	-.4992	06.70	13.11	003.4	B			C6B
	.2271	-.4954	06.37	12.90	023.5	A			C6B
	.2344	-.4971	05.98	12.96	003.4	C			C6B
	.2362	-.4950	05.89	12.85	008.1	B			C6B
	.2475	-.4947	05.30	12.80	030.6	B			C6B
	.0711	-.5001	14.51	13.61	002.4	A			C6B
ALIACENCIS	.0782	-.5089	14.11	14.03	080.6	A		*1	C6B
	.0850	-.5047	13.77	13.80	002.4	C			C6B
	.1098	-.5034	12.48	13.66	004.0	B			C6B
	.1104	-.5055	12.44	13.76	003.4	B			C6B
	.1111	-.5009	12.42	13.53	004.7	B			C6B
	.1262	-.5066	11.61	13.77	003.0	A			C6B
	.1268	-.5086	11.57	13.87	005.7	B			C6B
	.1358	-.5090	11.10	13.86	004.0	C			C6B
POISSON	.1477	-.5063	10.49	13.69	080.3	B		*1,2	C6B
	.2509	-.5099	05.06	13.55	003.7	B			C6B
	.1511	-.5085	10.30	13.79	001.7	B			C6B
	.1560	-.5074	10.05	13.72	002.4	B			C6B
	.1567	-.5009	10.04	13.39	003.0	C			C6B
	.1607	-.5085	09.80	13.76	004.4	B			C6B
	.1757	-.5066	09.02	13.62	002.4	B			C6B
	.1834	-.5083	08.61	13.68	001.7	C			C6B
	.1948	-.5084	08.01	13.65	005.7	B	B4		C6B
PONTANUS J	.1969	-.5015	07.93	13.30	009.1	A			C6B
PONTANUS G	.2262	-.5097	06.36	13.62	018.5	B			C6B
PONTANUS C	.2312	-.5011	06.13	13.17	023.8	A			C6B
	.2484	-.5099	05.19	13.56	003.4	B			C6B
	.2604	-.5051	04.58	13.28	009.1	A			C6B
	.1054	-.5113	12.68	14.07	004.4	B			C6B
	.1219	-.5111	11.82	14.01	003.4	B			C6B
POISSON N	.1261	-.5108	11.60	13.98	003.7	A			C6B
	.1312	-.5119	11.33	14.02	002.7	B			C6B
POISSON B	.1625	-.5118	09.69	13.92	011.1	B	B4		C6B
	.1990	-.5136	07.77	13.90	011.1	B			C6B
	.2222	-.5149	06.55	13.89	003.0	C			C6B
PONTANUS A	.2255	-.5171	06.37	13.99	010.7	A			C6B
PONTANUS B	.2342	-.5126	05.93	13.74	012.8	C			C6B
	.2461	-.5104	05.31	13.59	004.0	B			C6B
	.2495	-.5134	05.12	13.73	004.4	B			C6B
	.0788	-.5283	14.00	15.00	010.4	B			C6B
	.1040	-.5202	12.72	14.52	004.0	B			C6B
	.1049	-.5237	12.66	14.69	002.7	C			C6B
	.1103	-.5252	12.37	14.75	016.5	B			C6B
	.1105	-.5282	12.35	14.90	009.7	C			C6B
	.1143	-.5278	12.15	14.87	003.4	C			C6B
POISSON D	.1150	-.5211	12.14	14.53	012.1	A			C6B
	.1201	-.5292	11.84	14.92	003.7	C			C6B

CRATER	XSI	ETA	XINS	YINS	DIAM	Q	P	RMKS	REG
POISSON P	.1307	-.5280	11.29	14.83	007.1	A			C6B
	.1364	-.5234	11.01	14.58	008.4	B			C6B
	.1533	-.5250	10.12	14.61	026.2	C	B4		C6B
	.1634	-.5260	09.59	14.63	005.4	C			C6B
GEMMA FRISIUS P	.1882	-.5264	08.29	14.57	008.4	C		*2	C6B
GOODACRE B	.2010	-.5281	07.61	14.62	009.1	A			C6B
	.2078	-.5258	07.26	14.48	003.7	C			C6B
	.2136	-.5299	06.94	14.67	003.4	B			C6B
	.2226	-.5275	06.48	14.52	002.7	C			C6B
	.2240	-.5288	06.40	14.58	003.7	C			C6B
	.2251	-.5272	06.35	14.50	003.7	B			C6B
	.2261	-.5287	06.29	14.57	004.0	C			C6B
	.2265	-.5263	06.28	14.45	005.0	B			C6B
	.2314	-.5292	06.01	14.58	006.4	C			C6B
PONTANUS H	.2361	-.5219	05.79	14.20	030.2	A	B4	*1	C6B
	.2464	-.5296	05.22	14.55	002.7	B			C6B
PONTANUS S	.2471	-.5226	05.21	14.20	005.4	B			C6B
	.2516	-.5241	04.97	14.26	003.0	B			C6B
	.0879	-.5376	13.49	15.44	003.0	B			C6B
	.1059	-.5375	12.55	15.38	003.4	B			C6B
	.1078	-.5376	12.45	15.38	003.7	B			C6B
	.1155	-.5317	12.07	15.06	012.8	C	B4		C6B
POISSON L	.1199	-.5399	11.81	15.46	015.5	A			C6B
	.1249	-.5327	11.58	15.08	022.5	C	A4		C6B
	.1363	-.5300	10.99	14.91	004.0	B			C6B
GEMMA FRISIUS H	.1792	-.5360	08.72	15.08	027.5	A	B6		C6B
	.1875	-.5383	08.28	15.17	005.4	B			C6B
	.1881	-.5397	08.24	15.24	003.7	C			C6B
	.1927	-.5374	08.01	15.11	003.7	B			C6B
GOODACRE C	.2067	-.5339	07.29	14.89	005.0	B			C6B
	.2247	-.5376	06.33	15.02	006.0	B			C6B
ZAGUT P	.2519	-.5369	04.90	14.90	014.1	B			C6B
	.2551	-.5323	04.75	14.66	034.6	A			C6B
	.1003	-.5467	12.81	15.86	010.1	A			C6B
	.1271	-.5416	11.43	15.52	004.4	B			C6B
	.1335	-.5472	11.07	15.78	004.0	B			C6B
POISSON K	.1398	-.5404	10.77	15.42	013.8	A			C6B
GOODACRE A	.1951	-.5432	07.86	15.39	010.7	B			C6B
	.2002	-.5489	07.57	15.66	015.5	B			C6B
GOODACRE	.2056	-.5400	07.32	15.20	046.0	A		*1	C6B
	.2239	-.5420	06.35	15.24	005.7	A			C6B
GOODACRE E	.2245	-.5446	06.31	15.37	006.7	A			C6B
ZAGUT O	.2408	-.5456	05.45	15.37	012.1	A	B5		C6B
	.2444	-.5406	05.28	15.11	011.1	B			C6B
	.2530	-.5408	04.83	15.09	004.4	B			C6B
	.2548	-.5415	04.73	15.12	004.4	B			C6B
	.2559	-.5472	04.65	15.40	003.7	B			C6B
	.2610	-.5423	04.40	15.14	004.4	B			C6B
	.2572	-.5518	04.56	15.63	016.5	A			C6B



Special Remarks marked \* in Main Catalog

- \*1. Central peak
- \*2. Elliptical
- \*3. Shallow; low walls
- \*4. 1/4 of wall missing
- \*5. Shallow sinkhole, no walls